

# Procurement

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- Non-standard equipment
    - No catalogued prices.
    - Development costs & hardware costs.
    - Limited number of vendors to submit competitive bids.
    - Quality vs. costs.
    - Vendor-customer collaboration.
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# Procurement

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- *Encourage quality vendors to submit bids.*
  - *An appropriate assessment of costs.*
  - *Divide the package into parts for bids.*
  - *Develop uniform specifications among similar sites.*
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# Procurement

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- Weakened negotiation power
  - Known budget
  - Sole vendor for equipment upgrade

*Get the best value for the price.*

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# Procurement

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- Detailed specifications while concepts still under development
  - Needs may change as concepts evolve.

- *Specifications should account for possible changes.*

- *Sufficient flexibility for software development.*

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# Procurement

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- Equipment acceptance criteria
    - What is minimum acceptable performance?
  - *Develop realistic performance criteria.*
  - *Have clear contractual conditions.*
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# Procurement

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- Rapidly changing technologies
    - Computer and electronic equipment could be outdated quickly.
    - Equipment could be obsolete before it is put to full use.
    - Price/power drops rapidly.
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# Procurement

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- *Delay purchase till needed.*
  - *Provisions to have most updated electronics at delivery.*
  - *Provisions for updates when equipment is in full operation.*
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# Procurement

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- Capabilities vs. Needs
    - Teleobservation equipment has a wide range of capabilities and price.
    - Current Internet bandwidth may not take full advantage of high-end teleobservation equipment.
    - Price, power, and Internet capabilities change rapidly.
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# Procedurement

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*Start small with contingency for upgrades.*

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# Procurement

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- Multiple demands on a few vendors
    - Number of quality vendors is limited.
    - A number of large equipment orders in the same time period.
  - *Coordinate purchase among similar sites.*
  - *Contractual agreement on delivery dates.*
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